Effects of low dissolved oxygen on harbor seal *(Phoca vitulina)* diet in Hood Canal

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Long-term research efforts focusing on top-level predators are essential to understanding ecosystem health. Harbor seals are known to feed opportunistically with the majority of their diet consisting of seasonally and locally abundant prey. We will explore effects of recent declines in dissolved oxygen levels on diet of harbor seals in Hood Canal by comparing diet during periods of normal and low dissolved oxygen from 1998-2004. Fecal samples were collected during late summer and fall from haulout sites at Quilcene Bay, Dosewallips River, Duckabush River, Hamma Hamma River and Skokomish River. Samples were rinsed in nested sieves and all diagnostic structures were identified to lowest possible taxon. Diet was described by frequency of occurrence (FOC). More than 20 prey species were identified from over 2500 scats, with Pacific hake, Pacific herring and salmon being the most important prey species (>20% FOC). Other important prey included shiner surfperch, squid, three spine stickleback, Pacific tomcod, Pacific staghorn sculpin, plainfin midshipman and Northern anchovy. Dietary preferences will be examined by comparing prey composition in harbor seal diet to fish composition data. Foraging ecology of harbor seals in Hood Canal will be discussed using data from radio transmitters, time depth recorders, and satellite tags deployed in 2002.